# CITY OF ROCHESTER

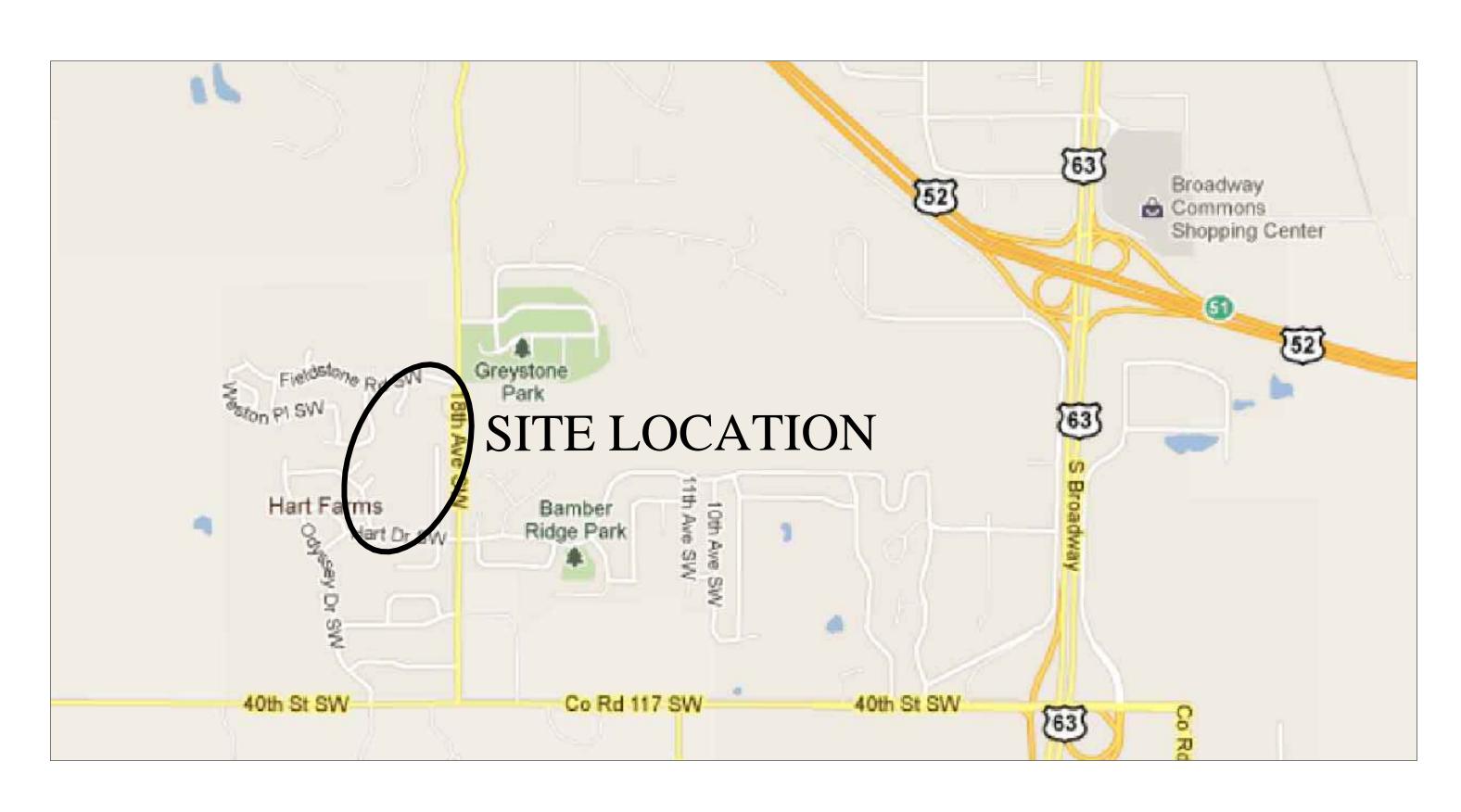
# HART FARMS POND IMPROVEMENTS

# ROCHESTER, OLMSTEAD, MN

# **LEGEND FEATURE EXISTING PROPOSED** SILT FENCE **CONSTRUCTION FENCE** DELINEATED WETLAND WATERLINE/SHORELINE **OVERHEAD ELECTRIC LINES BURIED ELECTRIC LINES** FIBER OPTIC LINES **GAS LINES PIPELINE** OVERHEAD TELEPHONE **BURIED TELEPHONE** TELEPHONE MANHOLE TELEPHONE CABLE PEDESTAL OVERHEAD CABLE TV **BURIED CABLE TV** TV CABLE PEDESTAL BARBED WIRE FENCE CHAIN LINK FENCE STOCKADE/WOOD FENCE **GUARD RAIL CENTER LINE ROADWAY** CENTER LINE RAILROAD SANITARY SEWER LINE SANITARY SEWER FORCEMAIN——FM→———FM→————FM→ STORM SEWER LINE STORM SEWER CULVERT STORM SEWER FORCEMAIN STORM SEWER MANHOLE DRAINTILE WATERMAIN --+---<del>----</del> WATERMAIN MANHOLE **HYDRANT**

--+-<del>|</del>|

WATER VALVE



### UTILITIES

THE LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES AS SHOWN ON THE PLANS ARE BASED ON AVAILABLE RECORDS AT THE TIME THE PLANS WERE PREPARED AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE THE EXACT LOCATION OF ALL FACILITIES AND TO PROVIDE ADEQUATE PROTECTION OF SAID UTILITIES DURING THE COURSE OF WORK.

### CONSTRUCTION NOTE

CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN OPERATION OF EXISTING UTILITIES THROUGHOUT THE DURATION OF THE PROJECT. IN THE EVENT THAT AN INTERRUPTION OF SERVICE IS UNAVOIDABLE IN ORDER TO COMPLETE THE WORK, CONTRACTOR SHALL PROVIDE ADEQUATE NOTIFICATION TO ALL AFFECTED BUSINESSES A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF ANY INTERRUPTION.

### GOPHER STATE ONE-CALL

IT IS THE LAW THAT ANYONE EXCAVATING AT ANY SITE MUST NOTIFY GOPHER STATE ONE CALL (GSOC) SO THAT UNDERGROUND ELECTRIC, NATURAL GAS, TELEPHONE OR OTHER UTILITY LINES CAN BE MARKED ON OR NEAR YOUR PROPERTY BEFORE ANY DIGGING BEGINS. A 48-HOUR NOTICE, NOT INCLUDING WEEKENDS, IS REQUIRED. CALLS CAN BE MADE TO GSOC AT 1-800-252-1166 OR (651)454-0002, MONDAY THROUGH FRIDAY (EXCEPT HOLIDAYS) FROM 7 A.M. TO 5 P.M.

### **Sheet List Table** Sheet Number **Sheet Title** TITLE SHEET 02 **EROSION CONTROL** 03 EXISTING CONDITIONS AND REMOVALS 04 **PLAN OVERVIEW** 05 PROFILES AND CROSS SECTIONS LANDSCAPING AND SEEDING 06 07 **DETAILS** 80 TRM DETAILS 09 **DETAILS - SPILLWAY AND WEIR DETAILS - LANDSCAPE**

### **GOVERNING SPECIFICATIONS**

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING FIELD MANUAL FOR TEMPORARY CONTROL ZONE LAYOUTS.

CITY APPROVAL	
RICHARD FREESE PUBLIC WORKS DIRECTOR	DATE
MATT CRAWFORD PROJECT MANAGER	DATE

### CLIENT

CITY OF ROCHESTER 201 4TH ST. SE ROCHESTER, MN, 55904-3740

## **ENGINEER**

EMMONS & OLIVIER RESOURCES, INC. 651 HALE AVENUE NORTH OAKDALE, MINNESOTA 55128-7534 TELEPHONE: (651) 770-8448 FAX: (651) 770-2552 eorinc.com

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. GREGORY D. 🗷 R DATE: 05/02/2018 LICENSE # 43873 DATE REVISION

SUBMISSION DATE: 05/02/2013

DESIGN BY DRAWN BY GDG JRH EOR PROJECT NO.

2010-012 (J6515)

Emmons & Olivier Resources, Inc. w a t e r Oakdale, MN 55128

community www.eorinc.com

Resources, Inc. 651 Hale Avenue North ecology Tele: 651.770.8448

CITY OF ROCHESTER 201 4TH ST. SE ROCHESTER, MN, 55904-3740 HART FARMS POND IMPROVEMENTS

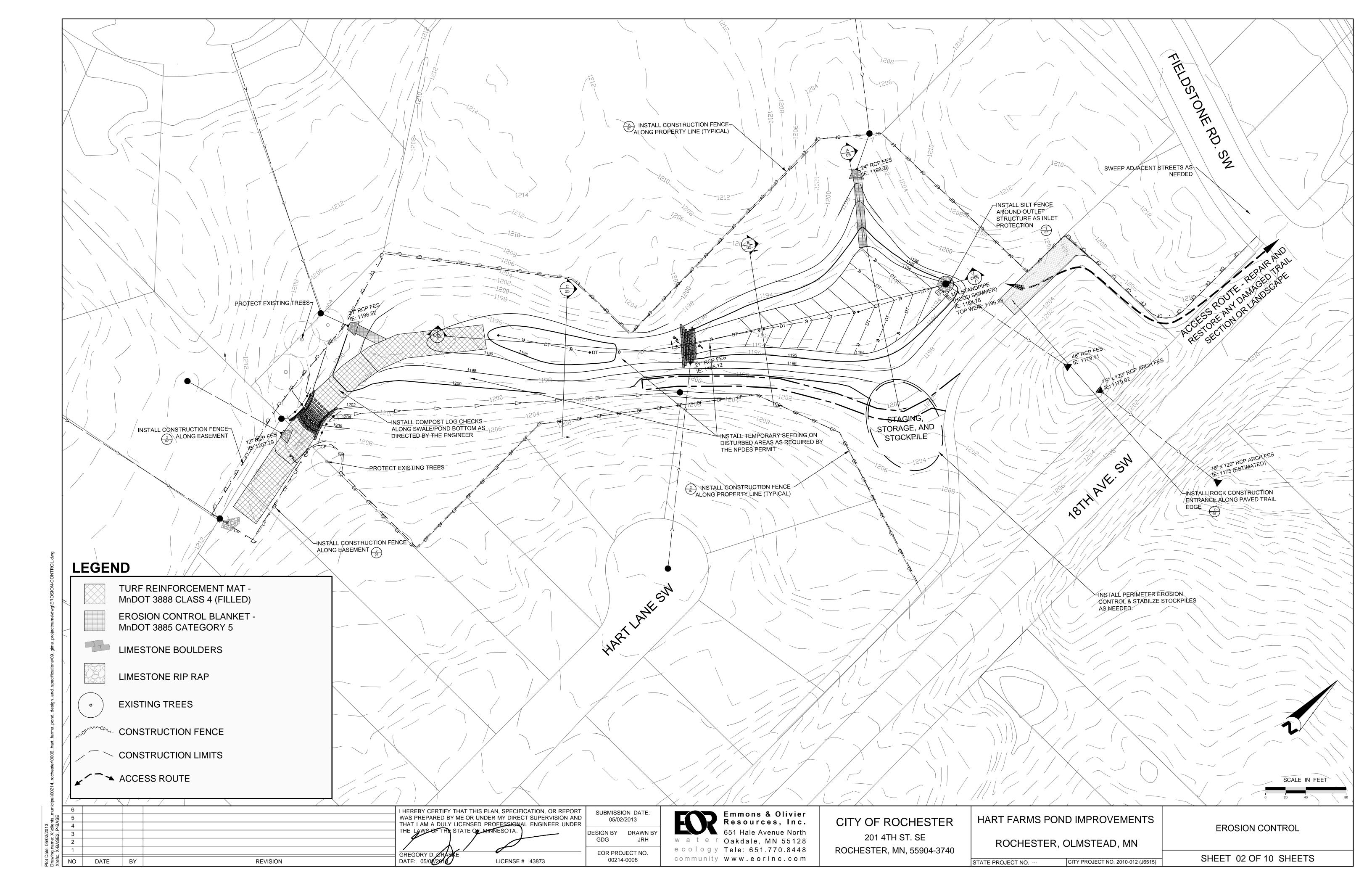
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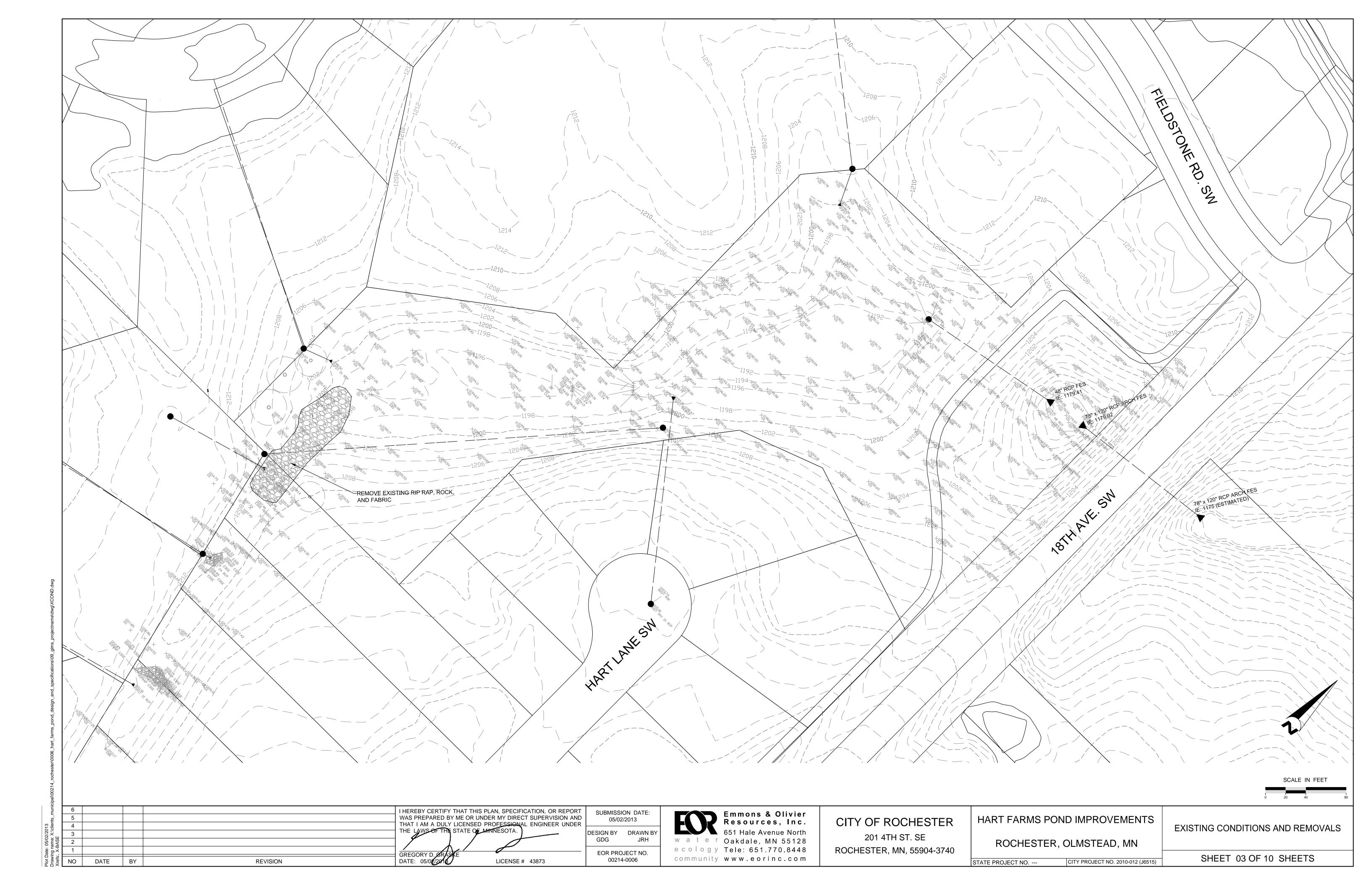
ROCHESTER, OLMSTEAD, MN

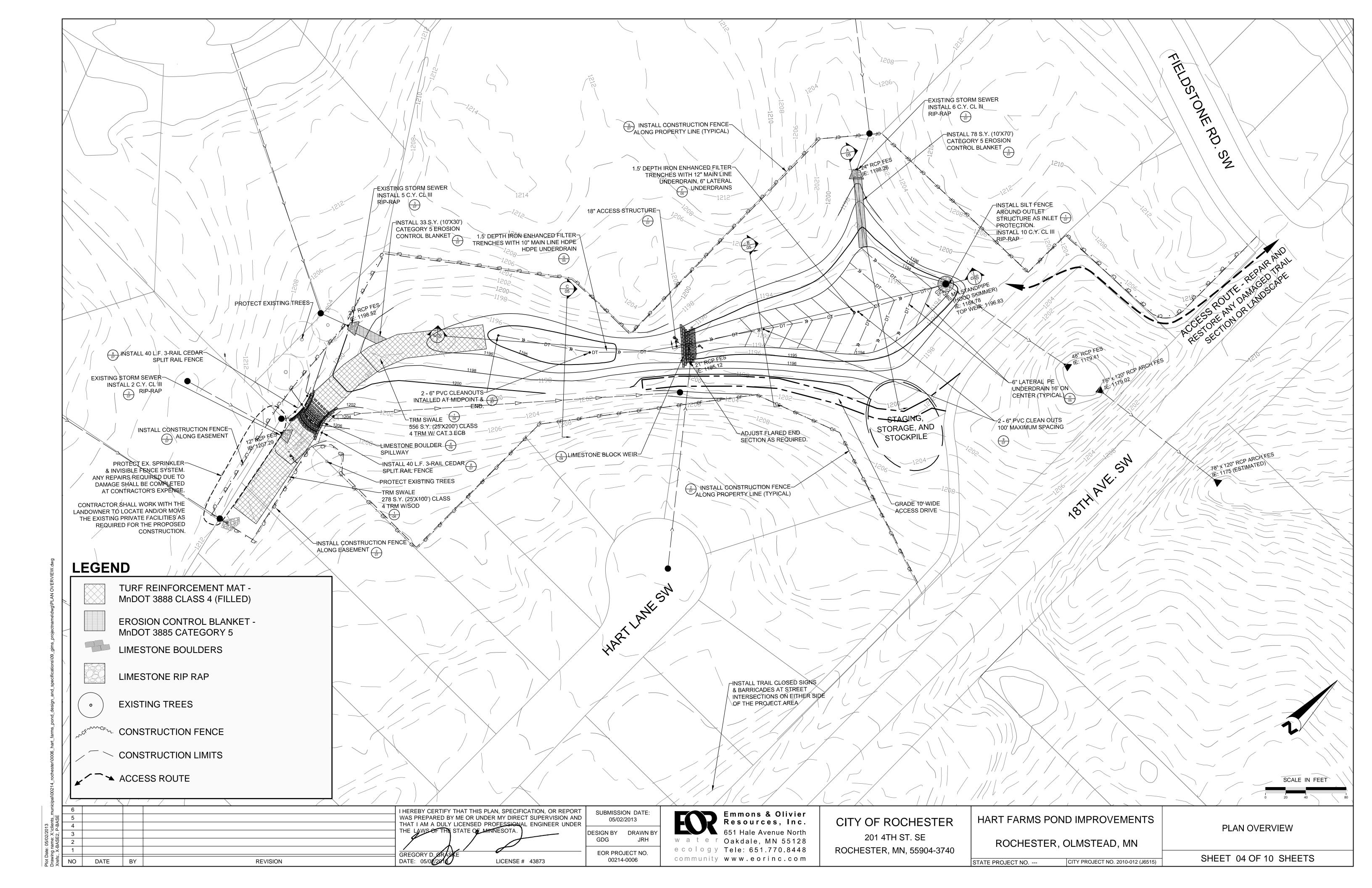
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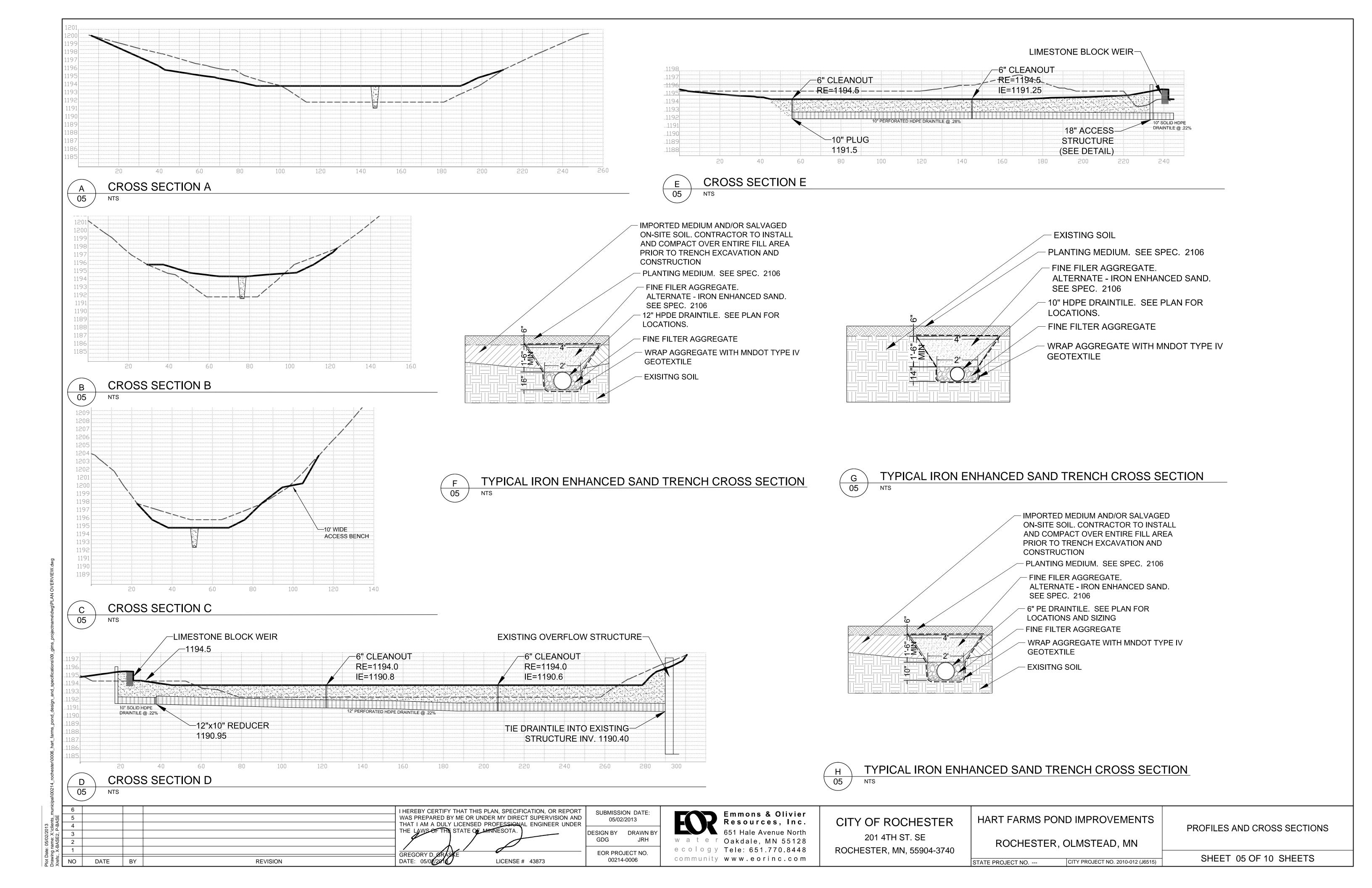
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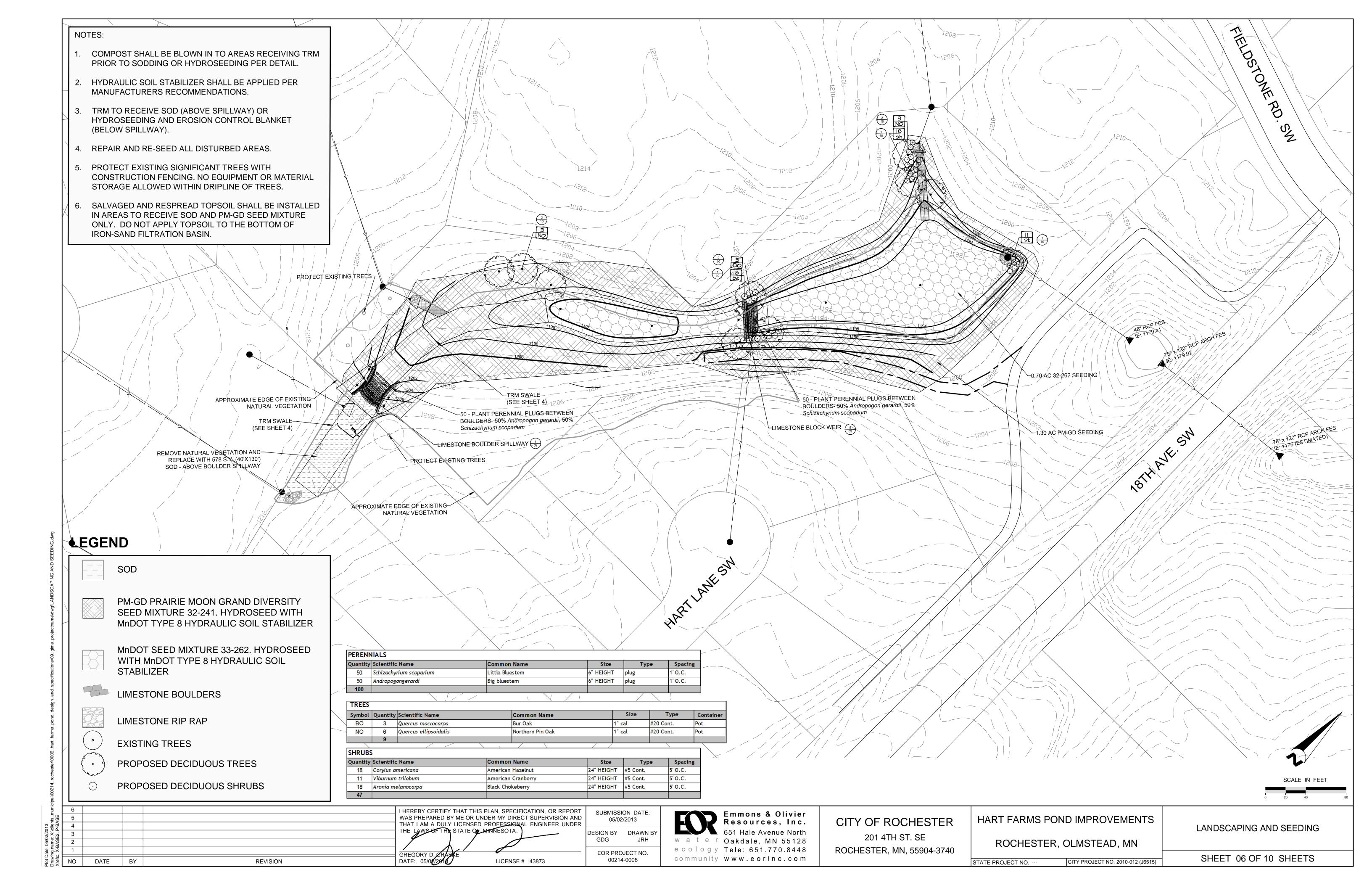
SHEET 01 OF 10 SHEETS

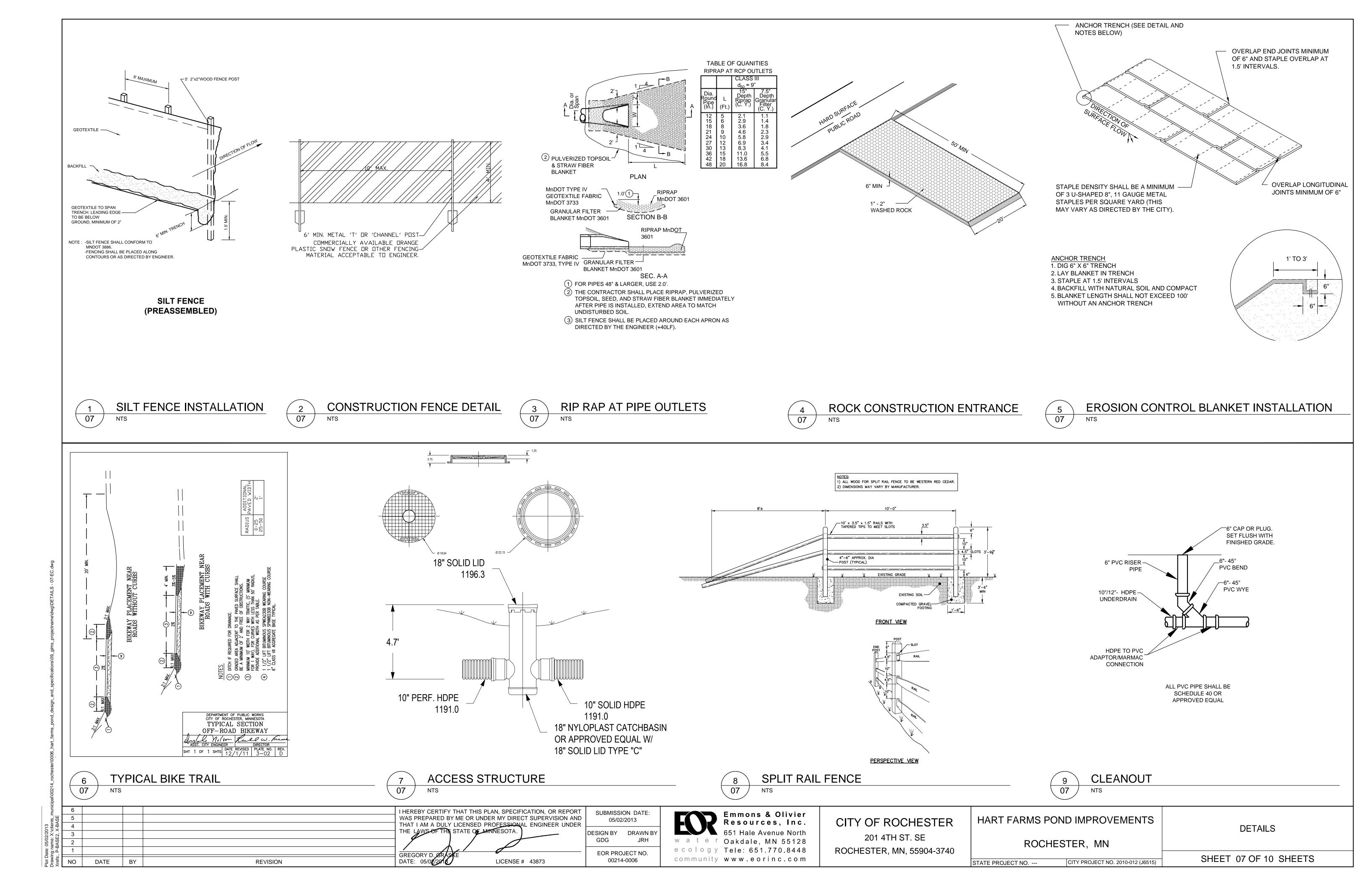


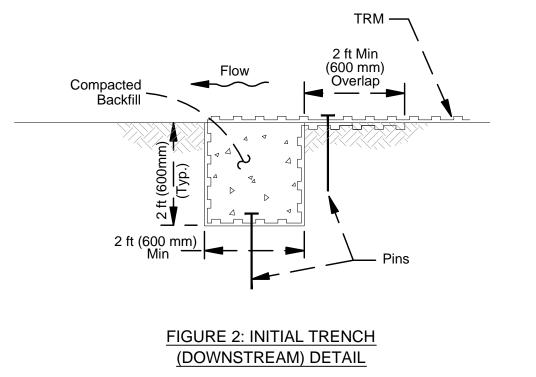












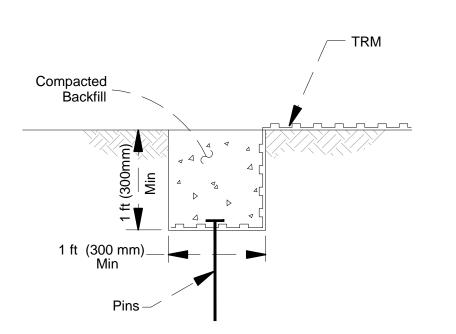
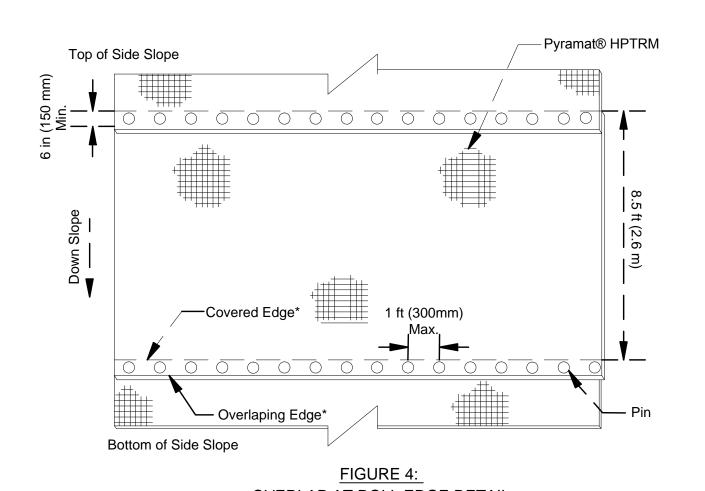
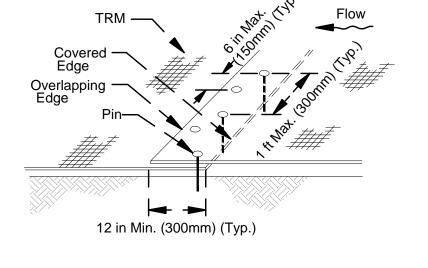


FIGURE 3: LONGITUDINAL EDGE TRENCH DETAIL

### FIGURE 1: OVERVIEW OF TRM IN CHANNEL





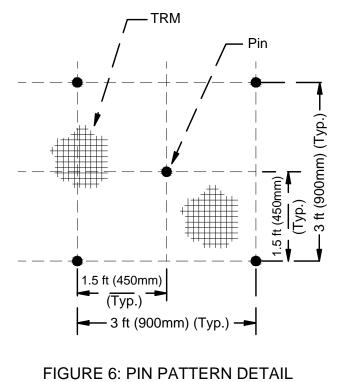
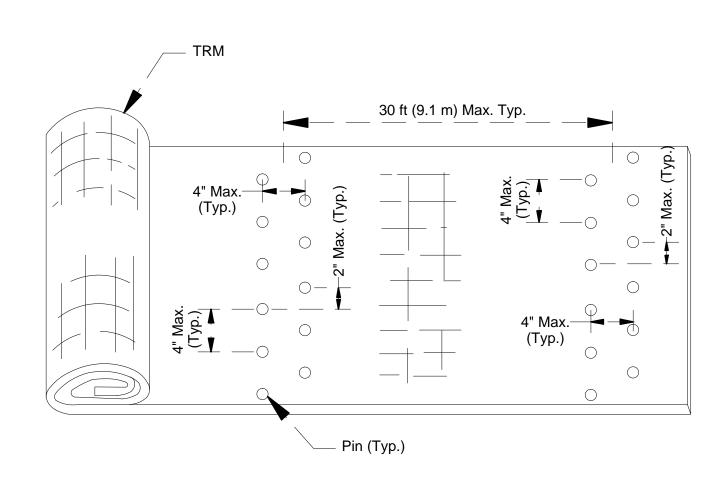
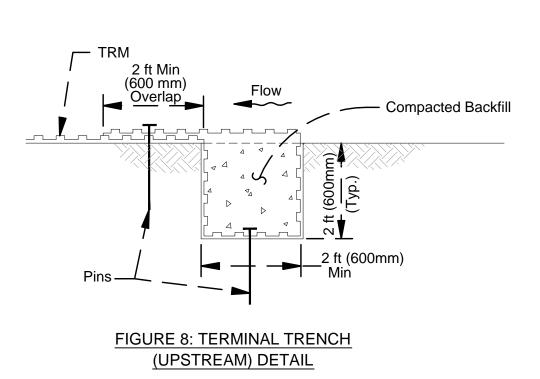


FIGURE 5: TRM OVERLAP AT ROLL END DETAIL

OVERLAP AT ROLL EDGE DETAIL \*Note: TRM Edge Shingle/Overlap placement depends on down slope direction (i.e Shingle in the direction of the down slope)





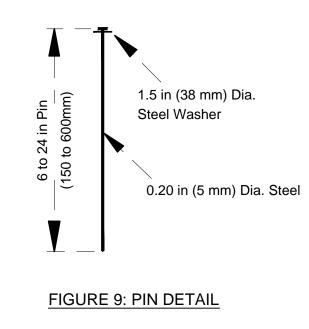
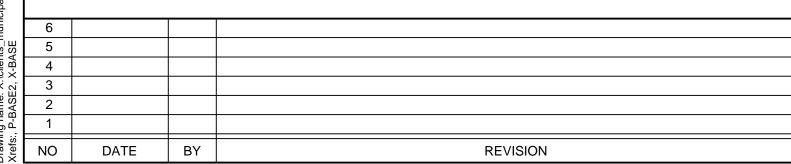
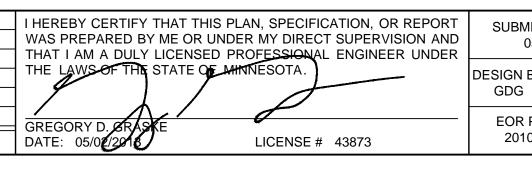
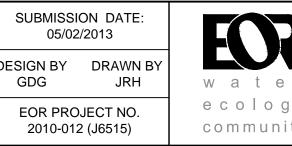


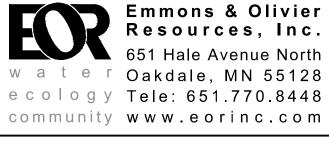
FIGURE 7: SIMULATED CHECK SLOT DETAIL

# MNDOT CLASS 4 TURF REINFORCEMENT MAT DETAILS AND NOTES (TYP.) 80









CITY OF ROCHESTER 201 4TH ST. SE ROCHESTER, MN, 55904-3740

# HART FARMS POND IMPROVEMENTS ROCHESTER, MN

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TRM DETAILS

SHEET 08 OF 10 SHEETS

- Fill installed TRM with blown in compost approx. 2". Place sod per specifications.
- Install a category 3 ECB above the soil-filled mat.

sharp turns are allowed on the mat.

TRM IN SWALE

PRE-CONSTRUCTION

SITE PREPARATION

direct contact with soil surface.

by the contractor with at least two weeks notice.

Do not mulch areas where mat is to be placed.

**INSTALLATION IN STORM WATER CHANNELS** 

channels that have the potential for scour.

Unroll mat in the upstream direction over the compacted trench.

minimum over crest of slope.

and approved by Engineer.

the Pin Pattern Guide (see Figure 6).

**GROUND PINNING DEVICES** 

required in channels that have the potential for scour.

plans and/or specifications for tie down device details.

**SOIL FILLING & SEEDING - BELOW BOULDER SPILLWAY** 

**SEEDING - TRM SWALE BELOW BOULDER SPILLWAY** 

Prepare seedbed by loosening the top 2-3 in (50-75 mm) minimum of soil.

Consult project plans and/or specifications for seed types and application rates.

Figure 1 shows general installation layout and details for TRM in storm water swales.

Secure initial trench lap with pinning devices on 12 in (300 mm) centers (see Figure 2).

Continue installation as described above, overlapping adjacent rolls as follows:

of ground pinning devices on 12 in (300 mm) centers (see Figure 4).

A pre-construction meeting should be held with the construction team. This meeting shall be scheduled

• Grade and compact area of TRM installation as directed and approved by Engineer. Subgrade shall be

Apply 25% of specified seed to soil surface with 1" compost before installing mat. Disturbed areas shall

• Excavate an initial trench 24 in wide x 24 in deep (600 x 600 mm) minimum across the channel at

downstream end of project (see Figure 2). Deeper initial trench and/or hard armoring may be required in

A. Roll edge overlap: 6 in (150 mm) minimum overlap with upslope mat on top. Secure with one row

B. Roll end overlap: 12 in (300 mm) minimum overlap with upstream mat on top. Secure with two

rows of ground pinning devices staggered 12 in (300 mm) apart on 12 in (300 mm) centers (see

• Secure mat using suggested ground pinning devices for appropriate frequency and pattern shown on

• For channel reaches longer than 45 ft (13.7 m), install simulated check slots per Figure 7. This method

includes placing two staggered rows of pins on 4 in (100 mm) centers at 30 ft (9.1 m) intervals (see

• Excavate terminal trench 24 in wide x 24 in deep (600 x 600 mm) minimum across the channel at the

pinning devices should be spaced on 12 in (300 mm) centers (see Figure 8). Unroll mat in downstream direction over compacted trench with a minimum 24 in (600 mm) lap. Secure lap with pinning devices

• Metal pins should be at least 0.20 in (5 mm) diameter steel with a 1 1/2 in (38 mm) steel washer at the head of the pin (see Figure 9). Metal pins should be driven flush to the soil surface. Pins should be between 6-24 in (150-600 mm) long and have sufficient ground penetration to resist pullout. Longer pins may be required for looser soils. Heavier metal stakes may be required in rocky soils. Depending

on soil pH and design life of the pin, galvanized or stainless steel pins may be required. Consult project

Installed TRM shall be re-seeded with another 25% seed and 1" blown in compost. Remaining 50%

• Smooth soil-fill in order to just expose the top of TRM. Do not place excessive soil above the mat.

• If equipment must operate on the mat, make sure it is of the rubber-tired type. No tracked equipment or

upstream end of the project (see Figure 8). Deeper terminal trench and/or hard armoring may be

Pin, backfill and compact upstream end of mat in terminal trench (see Figure 8). Terminal trench

Figure 7) or across the midpoint of the channel for channel lengths less than 60 ft (18.2 m).

• Excavate a longitudinal edge trench 12 in wide x 12 in deep (300 x 300 mm) minimum along both sides

of the installation to bury edges of mat (see Figure 3). The trench shall be located 24 in (600 mm)

Beginning at the centerline of the channel, place roll end into the initial trench (with 24 in (600 mm)

Secure longitudinal edge trench with pinning devices on 12 in (300 mm) centers (see Figure 3).

minimum lap) and secure with pinning devices on 12 in (300 mm) centers (see Figure 2). Position adjacent rolls and secure in trench in same manner. Backfill and compact soil into trench as directed

uniform and smooth. Remove all rocks, clods, vegetation or other objects so the installed mat will have

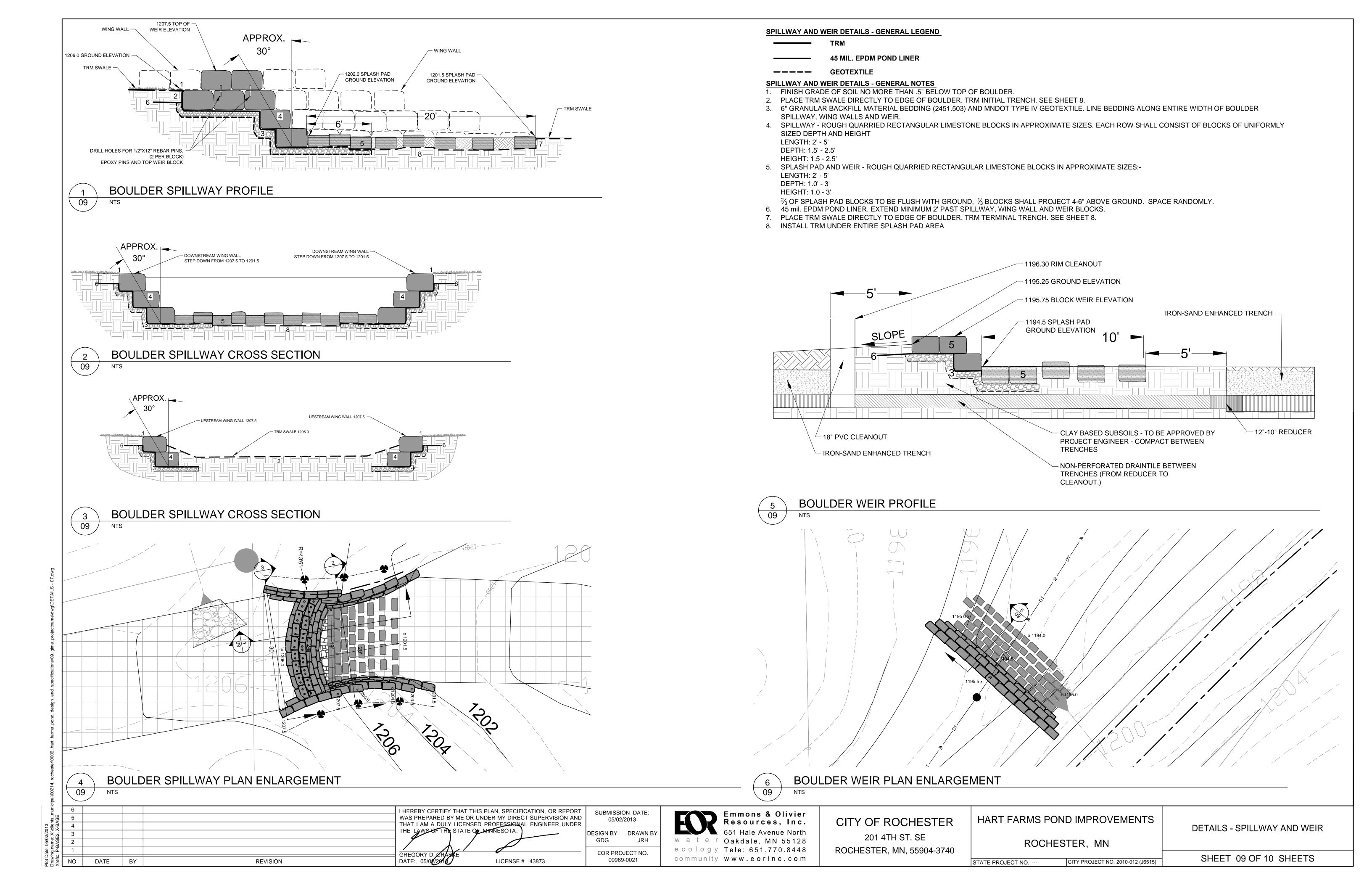
### **SOIL FILLING & SODDING - ABOVE BOULDER SPILLWAY**

seed shall be hydroseeded with stabilizer per seeding specifications.

Avoid any traffic over the mat if loose or wet soil conditions exist.

Irrigate as necessary to establish/maintain vegetation. Do not over irrigate.

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LOOSEN ROOTS OF ALL CONTAINERIZED PLANTS. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO

PLANTING

SHRUBS TO BE PLACED SO THAT TOP OF CONTAINER SITS FLUSH WITH PROPOSED GRADE.

3" SHREDDED HARDWOOD MULCH PER MnDOT TYPE 6

SET ON MOUNDED GRADE. WATER SHRUB THOROUGHLY AFTER PLANTING

SOIL MEDIUM AND THICKNESS VARIES

SEE PLANS

10 /

## SHRUB PLANTING DETAIL

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TREES IN A PLUMB POSITION THROUGH THE WARRANTY PERIOD. STAKING IS NOT PERMITTED.

PRUNE DAMAGED AND CROSSING BRANCHES AFTER PLANTING IS COMPLETE.

REMOVE ALL FLAGGING AND LABELING FROM TREE.

WATER TREE THOROUGHLY DURING PLANTING OPERATIONS. PLACE BACKFILL IN 8-12" LIFTS AND SATURATE SOIL WITH WATER. DO NOT COMPACT MORE THAN NECESSARY TO MAINTAIN PLUMB. CREATE A SHALLOW RING DEPRESSION AROUND TREE TO RETAIN WATER.

ROOT BOUND CONTAINER TREES TO BE SCARIFIED ON THE SIDES AND BOTTOM.

PLANTS SHOULD BE AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 4" OF SOIL IN THE TOP OF THE BALL.

MULCH - 4" DEEP - SHREDDED HARDWOOD MULCH PER MnDOT TYPE 6. NO MULCH TO LAY AGAINST COLLAR.

CUT AND REMOVE ALL WIRE, ROPE, AND BURLAP FROM THE TOP 2/3 OF BALL AND BURLAP TREES.

SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING

ROOT BALL SET ON MOUNDED SUBGRADE PROVIDE RODENT PROTECTION ON ALL DECIDUOUS TREES UNLESS OTHERWISE SPECIFIED.

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# TREE PLANTING DETAIL

2 x ROOT BALL, CONTAINER,

OR DIA. WIDTH

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. 4 GREGORY D. &RAS DATE: 05/02/2018 LICENSE # 43873 DATE **REVISION** 

### SUBMISSION DATE: 05/02/2013

DESIGN BY DRAWN BY GDG JRH EOR PROJECT NO. 00969-0021

### Emmons & Olivier Resources, Inc. 651 Hale Avenue North w a t e r Oakdale, MN 55128 ecology Tele: 651.770.8448 community www.eorinc.com

# CITY OF ROCHESTER 201 4TH ST. SE ROCHESTER, MN, 55904-3740

# HART FARMS POND IMPROVEMENTS

ROCHESTER, MN

DETAILS - LANDSCAPE

# **GENERAL NOTES**

- CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.
- 2. CONTRACTOR SHALL VERIFY PLAN LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.
- 3. CONTRACTOR SHALL ASSURE COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK AND MATERIALS SUPPLIED.
- 4. CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING CONSTRUCTION OPERATIONS. DAMAGE TO SAME SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
- 5. CONTRACTOR SHALL COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON
- 6. UNDERGROUND UTILITIES SHALL BE INSTALLED SO THAT TRENCHES DO NOT CUT THROUGH ROOT SYSTEMS OF EXISTING TREES TO REMAIN.
- CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT. SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO
- 8. CONTRACTOR IS RESPONSIBLE FOR ONGOING MAINTENANCE OF NEWLY INSTALLED MATERIALS UNTIL TIME OF SUBSTANTIAL COMPLETION. REPAIR OF ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO SUBSTANTIAL COMPLETION SHALL BE THE RESPONSIBILITY OF THE
- 9. EXISTING TREES OR SIGNIFICANT SHRUB MASSINGS FOUND ON SITE SHALL BE PROTECTED AND SAVED UNLESS NOTED TO BE REMOVED OR ARE LOCATED IN AN AREA TO BE GRADED. QUESTIONS REGARDING EXISTING PLANT MATERIAL SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO REMOVAL.
- 10. SYMBOLS ON PLAN DRAWING TAKE PRECEDENCE OVER SCHEDULES IF DISCREPANCIES IN QUANTITIES EXIST. SPECIFICATIONS AND DETAILS TAKE PRECEDENCE OVER NOTES.

## LANDSCAPE PLANTING NOTES

- 1. NO PLANTS WILL BE INSTALLED UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA
- 2. PROPOSED PLANT MATERIAL SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1. UNLESS NOTED OTHERWISE, DECIDUOUS SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED HEIGHT. ORNAMENTAL TREES SHALL HAVE NO 'V' CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3' FEET ABOVE THE ROOT BALL. PROPOSED PLANT MATERIAL SHALL BE LOCATED AND STAKED AS SHOWN ON PLAN. LANDSCAPE ARCHITECT MUST APPROVE STAKING OF PLANT MATERIAL PRIOR TO DIGGING.
- 3. NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED UNLESS APPROVAL IS GRANTED BY THE LANDSCAPE ARCHITECT TO THE CONTRACTOR PRIOR TO THE SUBMISSION OF BID.
- 4. ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN FIELD. LANDSCAPE ARCHITECT MUST BE NOTIFIED PRIOR TO
- 5. PLANT MATERIALS TO BE INSTALLED PER PLANTING DETAILS
- PLANTING AREAS RECEIVING GROUND COVER, PERENNIALS, ANNUALS OR VINES SHALL RECEIVE A MINIMUM OF 6" DEPTH OF PLANTING SOIL CONSISTING OF 45 PARTS TOPSOIL, 45 PARTS SCREENED COMPOST AND 10 PARTS SAND OR AS OTHERWISE SPECIFIED.
- TREE WRAPPING MATERIAL SHALL BE TWO-WALLED PLASTIC SHEETING APPLIED FROM TRUNK FLARE TO FIRST BRANCH. WRAP SMOOTH-BARKED DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO DECEMBER 1 AND REMOVE WRAPPING AFTER MAY 1.
- 8. ANNUAL, PERENNIAL, AND SHRUB BEDS ARE TO RECEIVE APPLICATION OF PRE-EMERGENT HERBICIDE (PREEN OR APPROVED EQUAL) FOLLOWED BY 3" DEEP SHREDDED HARDWOOD MULCH. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING USE OF HERBICIDES.
- 9. CONIFEROUS & DECIDUOUS TREES ARE TO RECEIVE 4" DEEP SHREDDED HARDWOOD MULCH AND SHALL HAVE NO MULCH IN DIRECT CONTACT
- 10. CONTRACTOR SHALL WARRANTY NEW PLANT MATERIAL PER MNDOT SPEC. 2571. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED.
- 11. UNLESS NOTED OTHERWISE, THE APPROPRIATE DATES FOR SPRING PLANT MATERIAL INSTALLATION IS FROM THE TIME GROUND HAS THAWED TO JUNE 15.

## SOD NOTES

- 1. SOD AREAS DISTURBED DUE TO GRADING UNLESS NOTED OTHERWISE.
- 2. WHERE SOD ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB,
- 3. SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOD SHALL BE STAKED SECURELY.
- 4. UNLESS NOTED OTHERWISE, THE APPROPRIATE DATES FOR SPRING SEED & SOD PLACEMENT IS FROM THE TIME GROUND HAS THAWED TO
- 5. FALL SODDING IS ACCEPTABLE FROM AUGUST 15 TO NOVEMBER 1. FALL SEEDING IS ACCEPTABLE FROM AUGUST 15 TO SEPTEMBER 15.

ADJUSTMENTS TO SOD/SEED PLANTING DATES MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.



STATE PROJECT NO. ---

CITY PROJECT NO. 2010-012 (J6515)

SHEET 10 OF 10 SHEETS